eldes

I/O ETHERNET CONTROLLER

ELAN1

Manual v1.0

Safety instructions

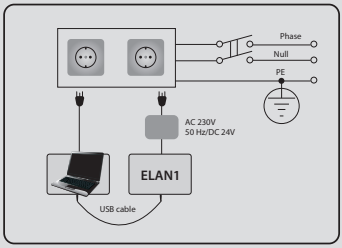
Please read and follow these safety guidelines in order to maintain safety of operators and people around:

- Don't use the system in hazardous environment.
- Don't expose the system to high humidity, chemical environment or mechanical impacts.
- Don't attempt to personally repair the system.
- System label is on the bottom side of the device.

System ELAN1 is a device mounted in limited access areas. Any system repairs must be done only by qualified, safety aware personnel.

The system must be powered by main 10-24V ⎓ 120mA max/ 10-24V 50Hz~ 120mA max power supply which must be approved by LST EN 60950-1 standard and be easily accessible.

External power supply must be reachable and can be connected to AC mains only inside installation room with automatic 2-pole circuit breaker capable of disconnecting circuit in the event of short circuit or overcurrent condition. Open circuit breaker must have a gap between connections of more than 3mm.



Mains power must be disconnected before any installation or tuning work starts. The system installation or maintenance must not be done during stormy conditions.

The device is switched off by 2-pole circuit breaker.

Fuse F1 type – miniSMDC 0,5A. Replacement fuses have to be exactly the same as indicated by the manufacturer.

Any additional devices linked to the system ELAN1 (computer, sensors, relays etc.) must be approved by LST EN 60950-1 standard.

The device is fully turned off by disconnecting 2-pole switch off device of the external power supply or any other linked device that the system ELAN1 is powered from.

If you use I security class computer for setting the parameters it must be connected to earth.

The WEEE (Waste Electrical and Electronic Equipment) marking on this product (see right) or its documentation indicates that the product must not be disposed of together with household waste. To prevent possible harm to human health and/or the environment, the product must be disposed on in an approved and environmentally safe recycling process. For further information on how to dispose of this product correctly, contact the system supplier, or the local authority responsible for waste disposal in your area.

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It is not allowed to copy and distribute information in this document or pass to a third party without advanced written authorization by "ELDES UAB". "ELDES UAB" reserves the right to update or modify this document and/or related products without a warning. Hereby, ELDES UAB declares that this ELAN1 device is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC. The declaration of conformity may be consulted at www.eldes.lt

Limited Liability

The buyer must agree that the system will reduce the risk of fire, theft, burglary or other dangers but does not guarantee against such events.

"ELDES UAB" will not take any responsibility regarding personal or property or revenue loss while using the system.

"ELDES UAB" liability according to local laws does not exceed value of the purchased system. "ELDES UAB" is not affiliated with any of the Internet providers therefore is not responsible for the quality of Internet service.

Manufacturer Warranty

This device carries a 24-month warranty by the manufacturer "ELDES UAB". Warranty period starts from the day the system has been purchased by the end user. The warranty is valid only if the system has been used as intended, following all guidelines listed in the manual and within specified operating conditions. Receipt must be kept as a proof of purchase date.

The warranty is voided if the system has been exposed to mechanical impact, chemicals, high humidity, fluids, corrosive and hazardous environment or other force majeure factors.

Package content:

1. ELAN1 ..... qty. 1
2. ELAN1 User Manual ..... qty. 1

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About User Manual

This document describes I/O Ethernet Controller ELAN1 based on SNMP protocol, it's installation and operation. It is very important to read User Manual before start using the system.

1. General Information

1.1 Function

ELAN1 is a micro-controller based device used to inform users about the state changes on digital or analog inputs and control one electric appliance – open collector. All these features can be configured via Web interface or SNMPv1 protocol.

1.2 Operation description

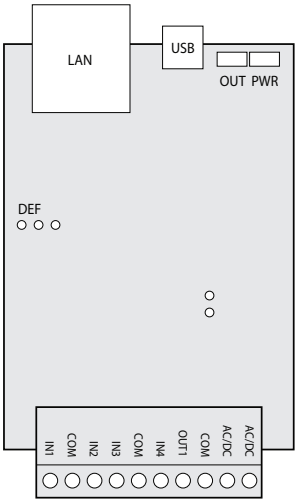
Monitoring and control system ELAN1 uses Ethernet Network for transmission of inputs (traps generated by one of the inputs) to Network Monitoring Systems (NMS). In addition to being informed about triggers/resets of the inputs, user can manage the system and use it to control one electronic device.

The system has 4 inputs which can be set to operate in *Digital*, *Analog* mode or swtiched off (*Off mode*).

By connecting an electronic device to ELAN1 open collector output user can control 1 electronic device on receipt of the correct SNMP set command with correct community string or change the output state via Web interface. For example, turn on or off the heating, lighting, lift the gates, blinds etc. The system remembers the output setting in case of electricity failure. Once initialized, ELAN1 will function 24/7.

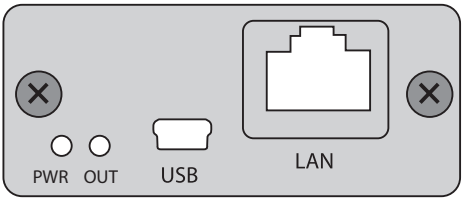
When there is a change on any of inputs, ELAN1 generates SNMP Enterprise specific (6) trap with the following sequence of 4 variables: SysLocation, Input name, Input state name, Priority.

1.3 Connectors and main unit description

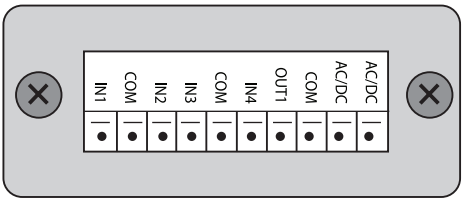


Short explanation of the main units

LAN	Ethernet RJ-45 port
USB	Mini USB port
OUT	Output ON/OFF red LED indicator
PWR	Power green LED indicator
DEF	Connectors for restoring default settings
IN1 - IN4	Inputs 1 - 4
COM	For connecting common pins of inputs
OUT1	Output 1
AC/DC	Power supply pins



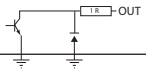
LAN	Ethernet RJ-45 port
USB	Mini USB port
PWR	Power GREEN LED indicator
OUT	Output ON/OFF RED LED indicator



Terminal block connector layout

IN1	Input1
COM	For connecting Input1 and Input2 common pin
IN2	Input2
IN3	Input3
COM	For connecting Input3 and Input4 common pin
IN4	Input4
OUT1	Output1
COM	For connecting controlled device common pin.
AC/DC	Power supply pins
AC/DC	Power supply pins

1.4 Technical Specifications

Power supply voltage	10-24V ⎓ 120mA max/ 10-24V 50Hz ~ 120mA max
10/100BaseT Ethernet port	yes
Number of inputs	4
Allowable input voltage values	0-10 V DC
Number of outputs	1
Output maximum switching ratings	Current - 500mA, voltage - 30V
Output circuit	Open collector output. Output is pulled to COM when enabled. 
Status LEDs	2
Dimensions	86x53x23mm
Operating temperature range	-30…+55°C

1.5 LED indications

PWR Status (green LED)	Description
Flashing once per second	ELAN1 is operating successfully
Lighting continuously	Firmware or hardware failure
Switched Off	Power supply failure

OUT Status (red LED)	Description
Lighting continuously	Output1 is activated
Switched Off	Output1 is deactivated

1.6 Powering ELAN1 device

ELAN1 device must be powered from the voltages of 10-24V AC/DC. After successful power feed the power PWR LED (green) is flashing and ELAN1 generates SNMP cold-start (0) trap with one variable: SysLocation. In case of power failure or firmware malfunction PWR LED is switched off or lighting continuously.

2. Configuration

2.1 First time connection

To start configuring the ELAN1 device it is necessary to make an Ethernet connection first. When connecting ELAN1 directly to the PC, please, use a crossover Ethernet cable, any other connections can be made by using straight-through cables.
After making physical connection and powering the device, please, use the standard Web browser. When connecting first time, please, ensure that the IP address of the PC has the same subnet as ELAN1 device. By default the IP address of ELAN1 is 192.168.1.101. In order to make an Ethernet connection, please, set the TCP/IP settings of PC as follows:

IP address: *192.168.1.105*
Subnet mask: *255.255.255.0*
Gateway: *192.168.1.1*
DNS1: *(blank)*
DNS2: (*blank)*

After configuring the TCP/IP settings, please, put the address in URL field as http://192.168.1.101 and hit *Enter*. User will be prompted to enter user name and password. The default user name and password are **1234**. After successful log in process user can configure ELAN1 device as needed. The connection session closes after 5 minutes of inactivity.

2.2 Web interface

After successful access to ELAN1 device via Web browser you will see 6 main menu sections:

- **General**
- **SNMP**
- **Inputs**
- **Outputs**
- **Monitoring**
- **Support**

All these menu sections are described in detail below.

2.2.1 General

In **General** configuration menu section, users can configure these parameter groups:

- **Ethernet configuration:**
  IP – IP address of ELAN1. Default IP address is **192.168.1.101**
  Mask – subnet mask of ELAN1. Default subnet mask is **255.255.255.0**
  Gateway – gateway of ELAN1. Default gateway is **192.168.1.1**

- **Web server configuration:**
  Username – user name for authorization to log in to configuration web interface. Default user name is **1234.**
  Password – password for authorization to log in to configuration web interface. Default password is **1234.**
  Local Port – local TCP port of ELAN1. Default port is **80.**

2.2.2 SNMP

In SNMP configuration menu users can configure these parameters:

- **Read Community –** password for authorization to read SNMP parameters from ELAN1. Default read community is **public.**
- **Write Community –** password for authorization to write SNMP parameters to ELAN1. Default write community is **private.**
- **SysDescription -** general description of ELAN1 device, ex.„Inputs monitoring via SNMP device"
- **SysContact -** the name of person or company whom user can contact if support needed
- **SysName -** general name of device, ex.„ELAN1"
- **SysLocation -** the name of location where ELAN1 device is installed
- **Trap destination1 -** IP address of 1st trap destination
- **Trap destination2 -** IP address of 2nd trap destination
- **Trap destination3 -** IP address of 3rd trap destination

2.2.3 Inputs

When users access Inputs configuration menu section they can configure these parameters for all available ELAN1 inputs:

- **General Settings**
  Mode – switch between 3 available input modes (*Analog, Digital, Off*) and assign the selected mode to any available system input.

- **Digital Mode Settings**
  Type – switch between 2 available digital input modes (*No – normally open, Nc – normally closed)* and assign the selected mode to the respective digital input:
  In *No* mode – input is triggered when input voltage runs below the set *threshold* value; input is restored when the set *threshold* value is exceeded.
  In *Nc* mode – input is triggered when the set *threshold* value is exceeded; input is restored when input voltage runs below the set *threshold* value.
  In Off mode – the respective input is disabled.
  Threshold – set the voltage value (mV) boundary for respective input *trigger* and *restore* state detection. Default *threshold* value is **5000** (mV).

- **Analog Mode Settings**
  Delta – set the value of voltage (mV) change. When the voltage increases or decreases by the set *delta* value,ELAN1 transmits the trap data packet indicating the voltage of the respective input. Default *delta* value is **1000** (mV).

- **In Off mode –** the respective input is disabled.

- **SNMP Settings**
  Input Name – title of the input which will be indicated in trap data packets
  State ON name – title of the input's ON state which will be indicated in trap data packets
  State OFF name – title of the input's OFF state which will be indicated in trap data packets
  Priority – priority level for setting unique identification of trap data packets related to particular input. User can set priority level from 1 to 8.

2.2.4 Outputs

The output state can be set to ON or OFF state by selecting it from the drop down list and pressing ***Write to device*** button. During ON state output transistor is activated, OUT1 pin is connected to COM pin and OUT LED is illuminated indicating that Output1 is activated. During OFF state output transistor is deactivated, OUT1 pin disconnected from COM pin and OUT LED is switched off indicating that Output1 is deactivated.

2.2.5 Monitoring

In this section user can view and monitor every system input. The page is automatically refreshed every 5 seconds.
Status – indicates the status of respective *digital* input. Values: 0 – input restored; 1 – input triggered; Na – not available.
Value – indicates the voltage value (mV) of respective *analog* input. Values: 1–10000 mV; Na – not available.

2.2.6 Support

In case you need any assistance, please, call us +370 526 35437. You may also try to find helpful information on our website: www.eldes.lt

2.3 SNMP parameters table

The table provided below describes the parameters, OIDs, action available for each parameter which can be configured via SNMP, value and an example or comment for each parameter.

2.3.1 General Settings

Parameter name	OID	Access	Value	Example / comment
Ethernet config - IP address	1.3.6.1.4.1.34093.1.2.10.1.0	read/write	IP address	i.e. 192.168.1.101
Ethernet config - subnet mask	1.3.6.1.4.1.34093.1.2.10.2.0	read/write	subnet IP	i.e. 255.255.255.0
Ethernet config - gateway	1.3.6.1.4.1.34093.1.2.10.3.0	read/write	gateway IP	i.e. 192.168.1.1
Web server config - username	1.3.6.1.4.1.34093.1.2.11.1.0	read/write	text (16 chars max.)	i.e. user
Web server config - password	1.3.6.1.4.1.34093.1.2.11.2.0	read/write	text (16 chars max.)	i.e. psw1234
Web server config – local port	1.3.6.1.4.1.34093.1.2.11.3.0	read/write	number	i.e. 80
Firmware version	1.3.6.1.4.1.34093.1.2.12.1.0	read	number	i.e. 80

2.3.2 SNMP Settings

Parameter name	OID	Access	Value	Example / comment
SysDescription	1.3.6.1.2.1.1.1.0	read/write	text (32 chars max.)	i.e. Inputs monitoring SNMP device
SysObjectID	1.3.6.1.2.1.1.2.0	read	1.3.6.1.4.1.34093.1.2	constant
SysUpTime	1.3.6.1.2.1.1.3.0	read	counter	i. e. 10778 seconds
SysContact	1.3.6.1.2.1.1.4.0	read/write	text (32 chars max.)	i.e. ELDES, Tel. No. +370111111
SysName	1.3.6.1.2.1.1.5.0	read/write	text (32 chars max.)	i.e. ELAN1 device
SysLocation	1.3.6.1.2.1.1.6.0	read/write	text (32 chars max.)	i.e. Vilnius, Lithuania
Read Community	1.3.6.1.4.1.34093.1.2.30.1.0	read/write	text (16 chars max.)	i.e. public
Write Community	1.3.6.1.4.1.34093.1.2.30.2.0	read/write	text (16 chars max.)	i.e. private
Trap Destination1	1.3.6.1.4.1.34093.1.2.31.1.0	read/write	IP address	i.e. 192.168.1.201
Trap Destination2	1.3.6.1.4.1.34093.1.2.31.2.0	read/write	IP address	i.e. 192.168.1.202
Trap Destination3	1.3.6.1.4.1.34093.1.2.31.3.0	read/write	IP address	i.e. 192.168.1.203

2.3.3 Inputs Settings

Parameter name	OID	Access	Value	Example / comment
Input1 name	1.3.6.1.4.1.34093.1.2.60.1.0	read/write	text (16 chars max.)	i.e. Input-1
Input2 name	1.3.6.1.4.1.34093.1.2.60.2.0	read/write	text (16 chars max.)	i.e. Input-2
Input3 name	1.3.6.1.4.1.34093.1.2.60.3.0	read/write	text (16 chars max.)	i.e. Input-3
Input4 name	1.3.6.1.4.1.34093.1.2.60.4.0	read/write	text (16 chars max.)	i.e. Input-4
Input1 state ON name	1.3.6.1.4.1.34093.1.2.61.1.0	read/write	text (16 chars max.)	i.e. Input-1 is ON
Input2 state ON name	1.3.6.1.4.1.34093.1.2.61.2.0	read/write	text (16 chars max.)	i.e. Input-2 is ON
Input3 state ON name	1.3.6.1.4.1.34093.1.2.61.3.0	read/write	text (16 chars max.)	i.e. Input-3 is ON
Input4 state ON name	1.3.6.1.4.1.34093.1.2.61.4.0	read/write	text (16 chars max.)	i.e. Input-4 is ON
Input1 state OFF name	1.3.6.1.4.1.34093.1.2.62.1.0	read/write	text (16 chars max.)	i.e. Input-1 is OFF
Input2 state OFF name	1.3.6.1.4.1.34093.1.2.62.2.0	read/write	text (16 chars max.)	i.e. Input-2 is OFF
Input3 state OFF name	1.3.6.1.4.1.34093.1.2.62.3.0	read/write	text (16 chars max.)	i.e. Input-3 is OFF
Input4 state OFF name	1.3.6.1.4.1.34093.1.2.62.4.0	read/write	text (16 chars max.)	i.e. Input-4 is OFF
Input1 priority	1.3.6.1.4.1.34093.1.2.63.1.0	read/write	1-8	i.e. 2
Input2 priority	1.3.6.1.4.1.34093.1.2.63 2.0	read/write	1-8	i.e. 3

Parameter name	OID	Access	Value	Example / comment
Input3 priority	1.3.6.1.4.1.34093.1.2.63.3.0	read/write	1-8	i.e. 8
Input4 priority	1.3.6.1.4.1.34093.1.2.63.4.0	read/write	1-8	i.e. 1
Input1 mode	1.3.6.1.4.1.34093.1.2.64.1.0	read/write	0, 1, 2	0 – Digital; 1 – Analog; 2 – Off
Input2 mode	1.3.6.1.4.1.34093.1.2.64.2.0	read/write	0, 1, 2	0 – Digital; 1 – Analog; 2 – Off
Input3 mode	1.3.6.1.4.1.34093.1.2.64.3.0	read/write	0, 1, 2	0 – Digital; 1 – Analog; 2 – Off
Input4 mode	1.3.6.1.4.1.34093.1.2.64.4.0	read/write	0, 1, 2	0 – Digital; 1 – Analog; 2 – Off
Digital Input1 type	1.3.6.1.4.1.34093.1.2.65.1.0	read/write	0, 1	0 – No (normally open); 1 – Nc (normally closed)
Digital Input2 type	1.3.6.1.4.1.34093.1.2.65.2.0	read/write	0, 1	0 – No (normally open); 1 – Nc (normally closed)
Digital Input3 type	1.3.6.1.4.1.34093.1.2.65.3.0	read/write	0, 1	0 – No (normally open); 1 – Nc (normally closed)
Digital Input4 type	1.3.6.1.4.1.34093.1.2.65.4.0	read/write	0, 1	0 – No (normally open); 1 – Nc (normally closed)
Digital Input1 - threshold	1.3.6.1.4.1.34093.1.2.66.1.0	read/write	1-10000	i.e. 6000 mV
Digital Input2 - threshold	1.3.6.1.4.1.34093.1.2.66.2.0	read/write	1-10000	i.e. 5000mV
Digital Input3 - threshold	1.3.6.1.4.1.34093.1.2.66.3.0	read/write	1-10000	i.e. 2000mV
Digital Input4 - threshold	1.3.6.1.4.1.34093.1.2.66.4.0	read/write	1-10000	i.e. 4000mV
Analolg Input1 - delta	1.3.6.1.4.1.34093.1.2.67.1.0	read/write	1-10000	i.e. 200 mV
Analolg Input2 - delta	1.3.6.1.4.1.34093.1.2.67.2.0	read/write	1-10000	i.e. 300 mV
Analolg Input3 - delta	1.3.6.1.4.1.34093.1.2.67.3.0	read/write	1-10000	i.e. 250 mV
Analolg Input4 - delta	1.3.6.1.4.1.34093.1.2.67.4.0	read/write	1-10000	i.e. 360 mV

2.3.4 Outputs Settings

Parameter name	OID	Access	Value	Example / comment
Output1 control	1.3.6.1.4.1.34093.1.2.200.1.0	read/write	0, 1	0 - OFF (output deactivated); 1 - ON (output activated);

2.3.5 Monitoring

Parameter name	OID	Access	Value	Example / comment
Input1 montoring - status	1.3.6.1.4.1.34093.1.2.300.1.0	read	0, 1, Na	0 – input is restored; 1 – input is triggered; Na – not available
Input2 montoring - status	1.3.6.1.4.1.34093.1.2.300.2.0	read	0, 1, Na	0 – input is restored; 1 – input is triggered; Na – not available
Input3 montoring - status	1.3.6.1.4.1.34093.1.2.300.3.0	read	0, 1, Na	0 – input is restored; 1 – input is triggered; Na – not available
Input4 montoring - status	1.3.6.1.4.1.34093.1.2.300.4.0	read	0, 1, Na	0 – input is restored; 1 – input is triggered; Na – not available
Input1 montoring - value	1.3.6.1.4.1.34093.1.2.301.1.0	read	1-10000, Na	i.e. 6000 mV; Na – not available
Input2 montoring - value	1.3.6.1.4.1.34093.1.2.301.2.0	read	1-10000, Na	i.e. 6000 mV; Na – not available
Input3 montoring - value	1.3.6.1.4.1.34093.1.2.301.3.0	read	1-10000, Na	i.e. 6000 mV; Na – not available
Input4 montoring - value	1.3.6.1.4.1.34093.1.2.301.4.0	read	1-10000, Na	i.e. 6000 mV; Na – not available

If the problem persists and it cannot be fixed by the self-guide above, please, contact your distributor or ELDES technical support by e-mail: support@eldes.lt
More up to date information about your device and other products can be found at the manufacturer's website www.eldes.lt

3 Appendix

3.1 Restoring to default parameters

In order to restore the default device parameters, please, carefully follow these steps

1. Disconnect the power supply.
2. Disconnect the USB cable.
3. Short-circuit (connect) the two DEF connectors (see section **1.3 Connectors and main unit description**).
4. Power up the device and wait for 5 seconds.
5. Disconnect the power supply.
6. Remove the short-circuit.
7. Power up the device.
8. Default parameters restored.

3.2 Checking the firmware version

In order to find out the current running device firmware version, please, log in to ELAN1 Web configuration interface. After successful log in process the firmware version will be indicated in the upper part of Web interface.

In order to find out the firmware version via SNMP, please, refer to section **2.3.1 General Settings.**

3.3 Firmware upgrade

The following steps describes ELAN1 firmware upgrade procedure. Please, follow them carefully:

1. Disconnect the power supply.
2. Connect the device to the PC using USB cable.
3. Short-circuit (connect) the two DEF connectors (see section **1.3 Connectors and main unit description**).
4. Power up the device.
5. After the new window pops-up, replace the existing .bin firmware file with a new firmware .bin file.
6. After firmware file replacement, please, disconnect the power supply.
7. Unplug the USB cable from the device.
8. Remove the short-circuit.
9. Power up the device.
10. ELAN1 firmware upgraded.

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